

OCD Artesia

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL ✓ <input type="checkbox"/> REENTER		5. Lease Serial No. NM-14847
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone ✓ <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Cimarex Energy Co. of Colorado		7. If Unit or CA Agreement, Name and No.
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701		8. Lease Name and Well No. Pere Marquette 18 Federal No. 9 H ✓
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-015- 39055 ✓
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 2030 FNL & 330 FWL At proposed prod. Zone 1650 FNL & 330 FWL		10. Field and Pool, or Exploratory Empire; Glorieta-Yeso
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 18-17S-29E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330'	16. No of acres in lease 1054.42 ✓	12. County or Parish Eddy
17. Spacing Unit dedicated to this well Lot 2 26.81	13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 340'	19. Proposed Depth 5320 MD, TVD 5300 ✓	20. BLM/BIA Bond No. on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3695' GR ✓	22. Approximate date work will start* 04.15.11	23. Estimated duration 10-15 days

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Zeno Farris</i>	Name (Printed/Typed) Zeno Farris	Date 02.04.11
Title Manager Operations Administration		
Approved By (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed)	Date APR 29 2011 ✓
Title FIELD MANAGER		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

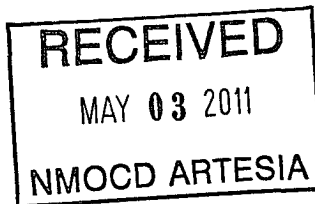
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

Roswell Controlled Water Basin



SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

Application to Drill
Pere Marquette 18 Federal No. 9
Cimarex Energy Co. of Colorado
 Lot 2, Section 18
 T17S R29E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 Location: SHL 2030 FNL & 330 FWL
 BHL 1650 FNL & 330 FWL
- 2 Elevation above sea level: 3696' GR
- 3 Geologic name of surface formation: Quaternary Alluvium Deposits
- 4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
- 5 Proposed drilling depth: 5320 MD, TVD 5300

6 Estimated tops of geological markers:

Rustler	Surface
Top of Salt	200'
Base of Salt	700'
Tansill	777'
Yates	884'
Seven Rivers	1150'
San Andres	2403'
Glorieta	3797'
Paddock	3890'
Blinbry	4455'
Tubb	5225'

7 Possible mineral bearing formation:

Paddock	Oil
Blinbry	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 300' 250'	8.4 - 8.8	40-45	NC	FW
300' to 5320'	9.9 - 10.1	28-32	NC	Brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

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9 Casing Plan:

String	Hole Size	Depth	Casing OD	Weight	Thread	Collar	Grade
<i>See COA</i> Surface	12 1/4"	0' to 250 300'	New 9 5/8"	36#	8-R	STC	J55
Production	8 3/4"	0' to 5320'	New 5 1/2"	17#	8-R	LTC	N80

Drilling Plan

Drill 8 3/4" hole to KOP @ 1600' TVD. Build and hold to 5320' MD, 5300' TVD. Set and cement 5 1/2" production casing from 0-5300.

10 Cementing:

Surface

Lead: 150 sx Class "C" + 4% D020 (Extender) + 2% S001 (CaCl2) + 0.2% D046 (Defoamer) , Mixed at 12.9 ppg, 1.97 ft3/sx

Tail: 200 sx Class C + 1% S001 (CaCl2), Mixed at 14.8 ppg, 1.34 ft3/sx

100% Excess

TOC Surface Centralizers per Onshorder 2.III.B.1.f

Production

Lead: 500 sacks 35/65 Poz/ C + 5% Salt (D044) + 10% Extender Gel (D020) + 0.02% Anti Foam (D046) + 1% Fluid Loss (D112) + 3 lbs/sx Extender (D042) + 0.125 lbs/sx Lost Circ Flakes, wt 12.4 ppg, yld 2.19 ft3/sx

See COA

Tail: 250 sx PVL+ 0.2% D167 + .2% D65 + .1% D13 + 1.3% NaCl, wt 13.0 ppg, yld 1.4 ft3/sk

25% Excess

TOC Surface

According to the State Engineer, average depth to ground water is 75.' Fresh water zones will be protected by setting 9 5/8" casing at 300' and cementing to surface. Hydrocarbon zones will be protected by setting 5 1/2" casing at 5320 and cementing to surface.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

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11 Pressure control Equipment:

Exhibit "E-1" - An 11" 3000 PSI working pressure B.O.P. consisting of a one set of blind rams and one set of pipe rams and a 3000 psi annular-type preventor. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator will be utilized if drilling in H2S area.

BOP unit will be hydraulically operated. Below intermediate casing shoe, BOP will be operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 3000 psi BOP system.

Test BOP equipment and choke manifold to 250 psi low and 3000 psi high and annular BOP to 250 psi low and 1500 psi high by an independent service company.

12 Testing, Logging and Coring Program: See COA

- A. Mud logging No mud logging program.
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. The area has a potential H2S hazard. An H2S drilling plan is attached. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **2300 psi** Estimated BHT **110°**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take 10-15 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Blinebry pay will be perforated and stimulated.

The proposed well will be tested and potentialized as **an oil well.**



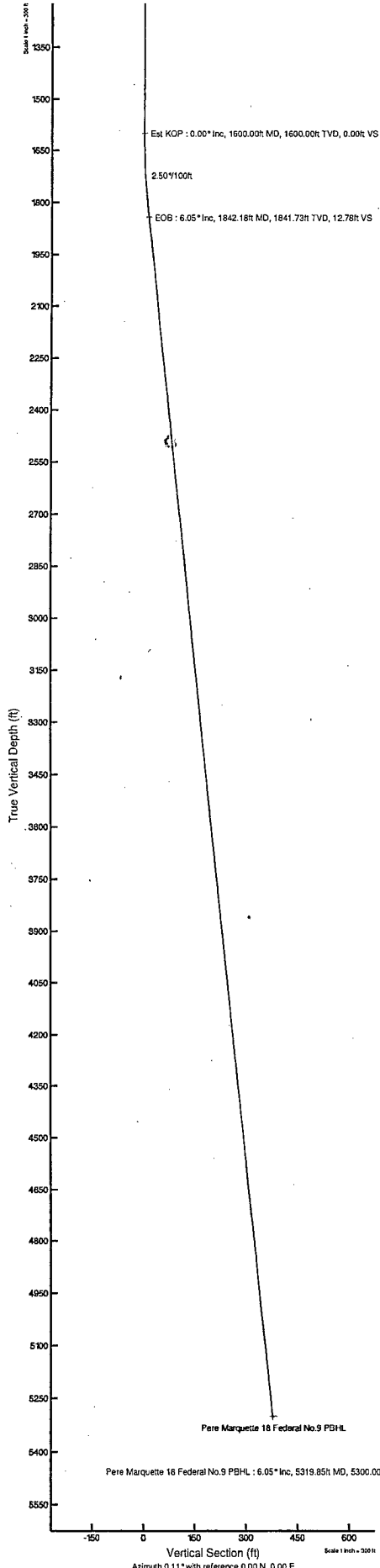
Cimarex Energy Co.

Location: Eddy County, NM
Field: Paddock Blinberry Field
Facility: Pere Marquette 18 Federal No.9

Slot: No.9 SHL
Well: No.9
Wellbore: No.9 PWB



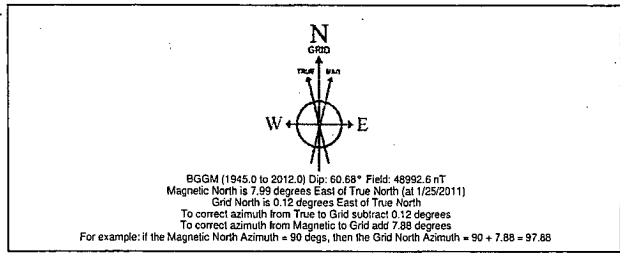
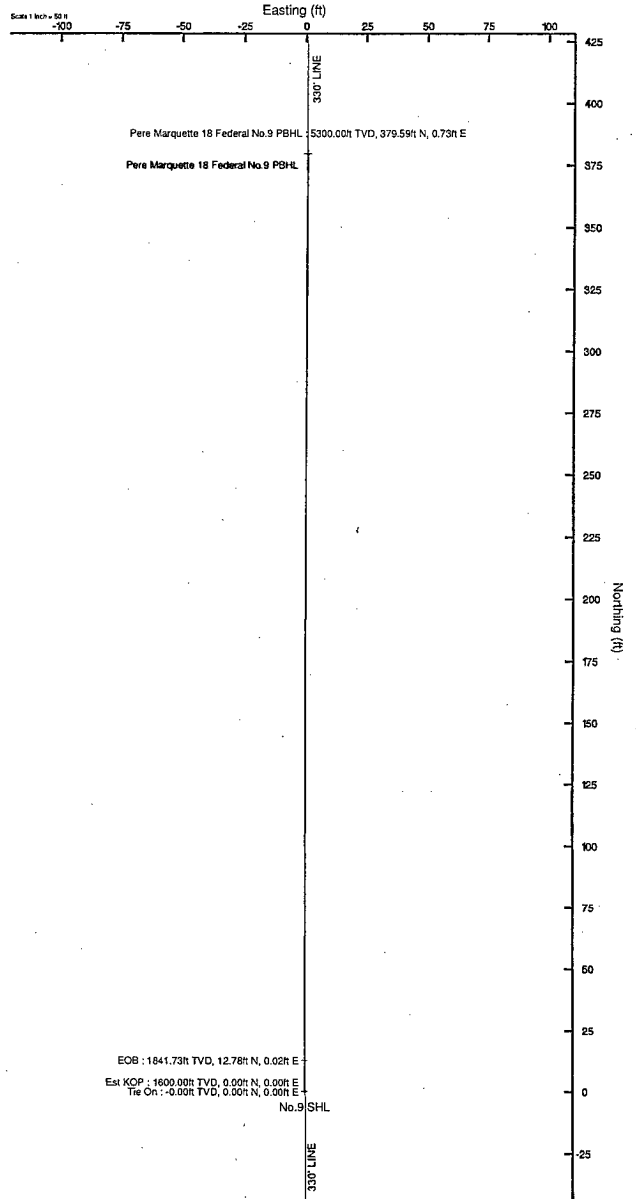
INTEQ



Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)
Tie On	0.00	0.000	0.110	0.00	0.00	0.00	0.00	0.00
Est KOP	1600.00	0.000	0.110	1600.00	0.00	0.00	0.00	0.00
EOB	1842.18	6.055	0.110	1841.73	12.78	0.02	2.50	12.78
Pere Marquette 18 Federal No.9 PBHL	5319.85	6.055	0.110	5300.00	379.59	0.75	0.00	379.59

Plot reference wellpath is Prelim_1
 True vertical depths are referenced to Rig on No.9 SHL (RT)
 Measured depths are referenced to Rig on No.9 SHL (RT)
 Rig on No.9 SHL (RT) to Mean Sea Level: 3696 feet
 Mean Sea Level to Mudline (Facility): Pere Marquette 18 Federal No.9: -3696 feet
 Coordinates are in feet referenced to Slot

Grid System: NAD83 / TM New Mexico State Planes, Eastam Zone (3001), US feet
 North Reference: Grid north
 Scale: True distance
 Depths are in feet
 Created by: gpmesocr on 1/27/2011





Planned Wellpath Report

Prelim_1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.9 SHL
Area	Eddy County, NM	Well	No.9
Field	Paddock Blinebry Field	Wellbore	No.9 PWB
Facility	Pere Marquette 18 Federal No.9		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Gomeoscr
Scale	0.999914	Report Generated	1/27/2011 at 2:23:36 PM
Convergence at slot	0.12° East	Database/Source file	WA Midland/No.9_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W
Facility Reference Pt			606766.60	668027.30	32°50'10.506"N	104°07'13.108"W
Field Reference Pt			594612.60	661200.10	32°49'03.170"N	104°09'35.695"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.9 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.9 SHL (RT) to Mean Sea Level	3696.00ft
Vertical Reference Pt	Rig on No.9 SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No.9 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.11°



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WELLPATH DATA (56 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	0.110	0.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	Tie On
100.00†	0.000	0.110	100.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
200.00†	0.000	0.110	200.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
300.00†	0.000	0.110	300.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
400.00†	0.000	0.110	400.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
500.00†	0.000	0.110	500.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
600.00†	0.000	0.110	600.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
700.00†	0.000	0.110	700.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
800.00†	0.000	0.110	800.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
900.00†	0.000	0.110	900.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1000.00†	0.000	0.110	1000.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1100.00†	0.000	0.110	1100.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1200.00†	0.000	0.110	1200.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1300.00†	0.000	0.110	1300.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1400.00†	0.000	0.110	1400.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1500.00†	0.000	0.110	1500.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	
1600.00	0.000	0.110	1600.00	0.00	0.00	0.00	606766.60	668027.30	32°50'10.506"N	104°07'13.108"W	0.00	Est KOP
1700.00†	2.500	0.110	1699.97	2.18	2.18	0.00	606766.60	668029.48	32°50'10.528"N	104°07'13.108"W	2.50	
1800.00†	5.000	0.110	1799.75	8.72	8.72	0.02	606766.62	668036.02	32°50'10.592"N	104°07'13.107"W	2.50	
1842.18	6.055	0.110	1841.73	12.78	12.78	0.02	606766.62	668040.08	32°50'10.632"N	104°07'13.107"W	2.50	EOB
1900.00†	6.055	0.110	1899.23	18.88	18.88	0.04	606766.64	668046.18	32°50'10.693"N	104°07'13.107"W	0.00	
2000.00†	6.055	0.110	1998.67	29.43	29.43	0.06	606766.66	668056.73	32°50'10.797"N	104°07'13.106"W	0.00	
2100.00†	6.055	0.110	2098.11	39.98	39.98	0.08	606766.68	668067.27	32°50'10.901"N	104°07'13.106"W	0.00	
2200.00†	6.055	0.110	2197.55	50.53	50.53	0.10	606766.70	668077.82	32°50'11.006"N	104°07'13.105"W	0.00	
2300.00†	6.055	0.110	2297.00	61.07	61.07	0.12	606766.72	668088.37	32°50'11.110"N	104°07'13.105"W	0.00	
2400.00†	6.055	0.110	2396.44	71.62	71.62	0.14	606766.74	668098.91	32°50'11.215"N	104°07'13.104"W	0.00	
2500.00†	6.055	0.110	2495.88	82.17	82.17	0.16	606766.76	668109.46	32°50'11.319"N	104°07'13.104"W	0.00	
2600.00†	6.055	0.110	2595.32	92.72	92.72	0.18	606766.78	668120.01	32°50'11.423"N	104°07'13.103"W	0.00	
2700.00†	6.055	0.110	2694.76	103.26	103.26	0.20	606766.80	668130.55	32°50'11.528"N	104°07'13.103"W	0.00	
2800.00†	6.055	0.110	2794.21	113.81	113.81	0.22	606766.82	668141.10	32°50'11.632"N	104°07'13.102"W	0.00	
2900.00†	6.055	0.110	2893.65	124.36	124.36	0.24	606766.84	668151.65	32°50'11.736"N	104°07'13.102"W	0.00	
3000.00†	6.055	0.110	2993.09	134.91	134.91	0.26	606766.86	668162.19	32°50'11.841"N	104°07'13.101"W	0.00	
3100.00†	6.055	0.110	3092.53	145.45	145.45	0.28	606766.88	668172.74	32°50'11.945"N	104°07'13.101"W	0.00	
3200.00†	6.055	0.110	3191.98	156.00	156.00	0.30	606766.90	668183.29	32°50'12.049"N	104°07'13.100"W	0.00	
3300.00†	6.055	0.110	3291.42	166.55	166.55	0.32	606766.92	668193.83	32°50'12.154"N	104°07'13.100"W	0.00	
3400.00†	6.055	0.110	3390.86	177.10	177.10	0.34	606766.94	668204.38	32°50'12.258"N	104°07'13.100"W	0.00	
3500.00†	6.055	0.110	3490.30	187.64	187.64	0.36	606766.96	668214.93	32°50'12.362"N	104°07'13.099"W	0.00	
3600.00†	6.055	0.110	3589.74	198.19	198.19	0.38	606766.98	668225.47	32°50'12.467"N	104°07'13.099"W	0.00	
3700.00†	6.055	0.110	3689.19	208.74	208.74	0.40	606767.00	668236.02	32°50'12.571"N	104°07'13.098"W	0.00	
3800.00†	6.055	0.110	3788.63	219.29	219.29	0.42	606767.02	668246.57	32°50'12.676"N	104°07'13.098"W	0.00	
3900.00†	6.055	0.110	3888.07	229.83	229.83	0.44	606767.04	668257.11	32°50'12.780"N	104°07'13.097"W	0.00	
4000.00†	6.055	0.110	3987.51	240.38	240.38	0.46	606767.06	668267.66	32°50'12.884"N	104°07'13.097"W	0.00	
4100.00†	6.055	0.110	4086.96	250.93	250.93	0.48	606767.08	668278.21	32°50'12.989"N	104°07'13.096"W	0.00	
4200.00†	6.055	0.110	4186.40	261.48	261.48	0.50	606767.10	668288.75	32°50'13.093"N	104°07'13.096"W	0.00	
4300.00†	6.055	0.110	4285.84	272.02	272.02	0.52	606767.12	668299.30	32°50'13.197"N	104°07'13.095"W	0.00	



Planned Wellpath Report

Prelim_1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.9 SHL
Area	Eddy County, NM	Well	No.9
Field	Paddock Blinebry Field	Wellbore	No.9 PWB
Facility	Pere Marquette 18 Federal No.9		

WELLPATH DATA (56 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4400.00†	6.055	0.110	4385.28	282.57	282.57	0.54	606767.14	668309.85	32°50'13.302"N	104°07'13.095"W	0.00	
4500.00†	6.055	0.110	4484.72	293.12	293.12	0.56	606767.16	668320.39	32°50'13.406"N	104°07'13.094"W	0.00	
4600.00†	6.055	0.110	4584.17	303.67	303.67	0.58	606767.18	668330.94	32°50'13.510"N	104°07'13.094"W	0.00	
4700.00†	6.055	0.110	4683.61	314.21	314.21	0.60	606767.20	668341.49	32°50'13.615"N	104°07'13.093"W	0.00	
4800.00†	6.055	0.110	4783.05	324.76	324.76	0.62	606767.22	668352.03	32°50'13.719"N	104°07'13.093"W	0.00	
4900.00†	6.055	0.110	4882.49	335.31	335.31	0.64	606767.24	668362.58	32°50'13.824"N	104°07'13.092"W	0.00	
5000.00†	6.055	0.110	4981.93	345.86	345.86	0.67	606767.27	668373.13	32°50'13.928"N	104°07'13.092"W	0.00	
5100.00†	6.055	0.110	5081.38	356.41	356.40	0.69	606767.29	668383.67	32°50'14.032"N	104°07'13.091"W	0.00	
5200.00†	6.055	0.110	5180.82	366.95	366.95	0.71	606767.31	668394.22	32°50'14.137"N	104°07'13.091"W	0.00	
5300.00†	6.055	0.110	5280.26	377.50	377.50	0.73	606767.33	668404.77	32°50'14.241"N	104°07'13.090"W	0.00	
5319.85	6.055	0.110	5300.00†	379.59	379.59	0.73	606767.33	668406.86	32°50'14.262"N	104°07'13.090"W	0.00	Pere Marquette 18 Federal No.9 PBHL

HOLE & CASING SECTIONS Ref Wellbore: No.9 PWB Ref Wellpath: Prelim_1

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.375in Casing Surface	0.00	300.00	300.00	0.00	300.00	0.00	0.00	0.00	0.00
8.75in Open Hole	300.00	5319.85	5019.85	300.00	5300.00	0.00	0.00	379.59	0.73

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) Pere Marquette 18 Federal No.9 PBHL	5319.85	5300.00	379.59	0.73	606767.33	668406.86	32°50'14.262"N	104°07'13.090"W	point

SURVEY PROGRAM Ref Wellbore: No.9 PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	5319.85	NaviTrak (Standard)		No.9 PWB

SR & A

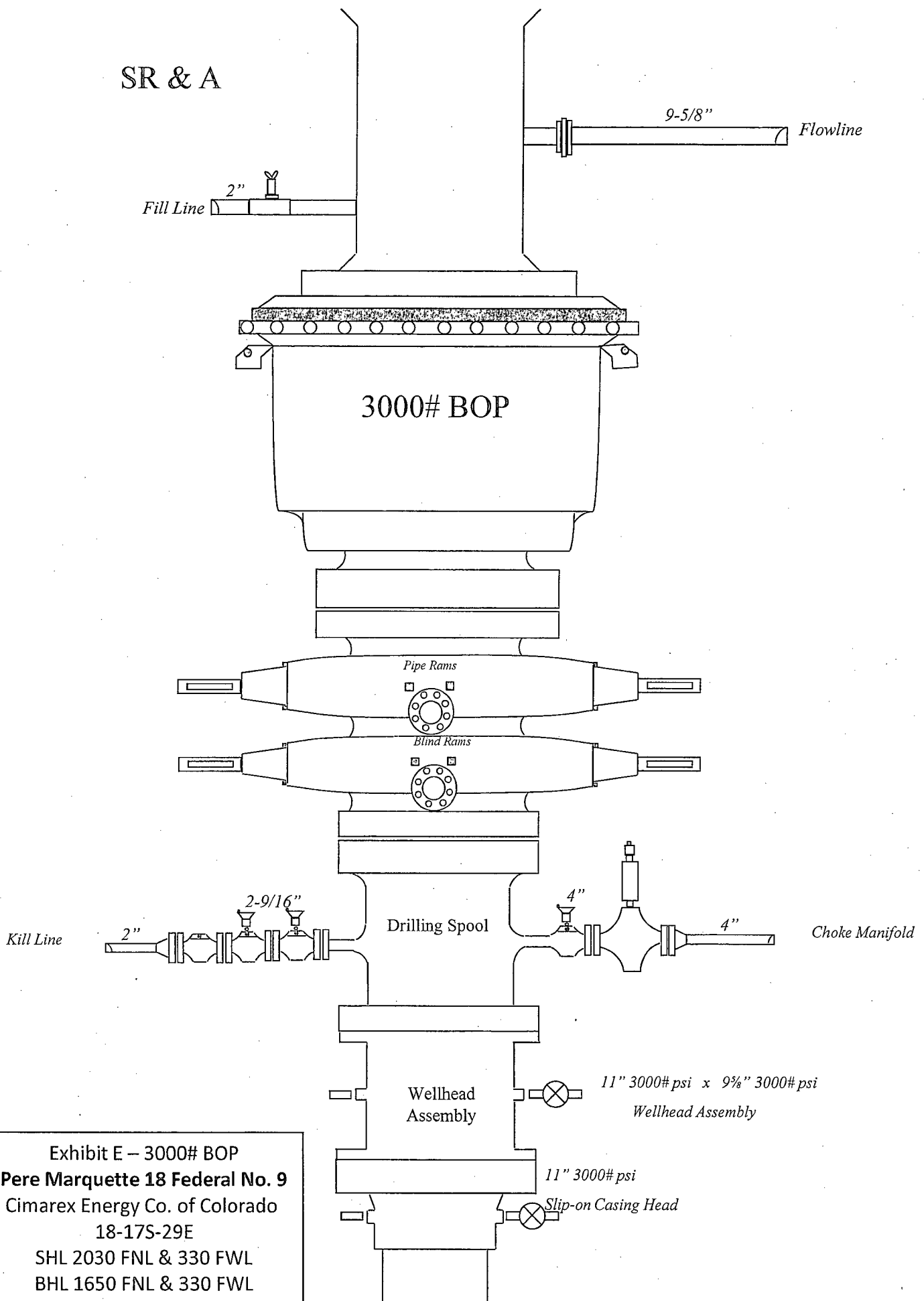


Exhibit E – 3000# BOP
Pere Marquette 18 Federal No. 9
Cimarex Energy Co. of Colorado
18-17S-29E
SHL 2030 FNL & 330 FWL
BHL 1650 FNL & 330 FWL
Eddy County, NM

Drilling Operations Choke Manifold 3M Service

Exhibit E-1 – Choke Manifold Diagram
Pere Marquette 18 Federal No. 9
 Cimarex Energy Co. of Colorado
 18-17S-29E
 SHL 2030 FNL & 330 FWL
 BHL 1650 FNL & 330 FWL
 Eddy County, NM

